

CLAIMS

1. An overhead conveyor of the type that comprises
5 at least one drive carriage (13) which is drivably
arranged in a girder system and from which load-holding
means (18) are suspended, characterised in
that the girder system comprises an elongate straight box
girder (9) having a first inner space with rails (12) for
10 the drive carriage (13) and a second elongate inner space
comprising a driven endless drive element (5, 6) adapted
to drive the drive carriage (13).

2. An overhead conveyor as claimed in claim 1,
15 wherein the girder system also comprises at least par-
tially curved girder portions (9"), where the second
elongate inner space is without a drive element.

3. An overhead conveyor as claimed in claim 1 or 2,
20 wherein the drive carriage (13) comprises two carriers
(14, 15) which are arranged in a fixed spaced-apart rela-
tionship in the longitudinal direction of the girder sys-
tem and adapted to run on said rails (12), each carrier
being provided with at least one driver (19; 31; 40)
25 adapted to engage the drive element so as to transfer
drive to the drive carriage (13).

4. An overhead conveyor as claimed in claim 3,
wherein the driver (19) is movable in its longitudinal
30 direction and preloaded to be pressed towards engagement
with the drive element (5).

5. An overhead conveyor as claimed in claim 3 or 4,
wherein the girder system is made up of straight (9) and
35 curved (9", 9a, 9b) girder portions, the curved girder
portions without a drive element being shorter than the
distance between two carriers (14, 15) of the same drive

carriage (19) to allow a front carrier (14) of a drive carriage (13), which is moved into a curved girder portion (9", 9a, 9b), to be moved by the engagement of the rear carrier (15) with the drive element (5) of the preceding straight girder portion (9), through the curved girder portion (9", 9a, 9b) and into a subsequent straight girder portion (9) and there come into engagement with the drive element (5) in this subsequent girder portion.

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6. An overhead conveyor as claimed in any one of the preceding claims, wherein switching points are connectable in the girder system, said switching points having a straight girder (9') connectable to a first straight girder (9) and provided with a space having rails (12) for carriers which is movable away from the girder space with the drive element, and with a second curved girder portion (9b) which, during movement of the above-mentioned space, at the same time is positioned in contact with the first straight girder (9) and with a subsequent curved girder portion (9a).

7. An overhead conveyor as claimed in any one of claims 3-6, wherein each driver (19; 31, 40) in its lower part has projecting portions (20; 32, 36) adapted, in cooperation with a guide means (22; 34; 37; 50), to be able to move the driver into and/or out of engagement with the drive element (5), where appropriate against the preloaded action of the pin.

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8. An overhead conveyor as claimed in claim 7, wherein the guide means (37; 50) is fixedly arranged to cooperate with said projecting portions as the carrier passes the guide means.

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9. An overhead conveyor as claimed in claim 7, wherein the guide means is movably arranged to be able

to actuate, manually or by remote control, the driver pin (19) to perform disconnection of the drive for a carrier (14, 15).

5 10. An overhead conveyor as claimed in any one of claims 7-9, wherein said projecting portions of the driver (19), in the front carrier (14) of a drive carriage (13), are formed as a ramp-shaped inclined driver plate (20), while the rear carrier (15) is provided
10 with a guide means in the form of a rearwards projecting pressing roller (22) which is adapted, in contact with the ramp-shaped driver plate (20) of a subsequent drive carriage (13), to force its driver to be disconnected from the drive element, for the purpose of being able to
15 accumulate a number of drive carriages in the girder system.

11. An overhead conveyor as claimed in any one of claims 7-9, wherein said projecting portions (32) of the driver (19), in the front carrier (14) of a drive carriage (13), are provided with friction-reducing means (33), while the rear carrier (15) is provided with a ramp-shaped inclined depressing means (34) which is adapted, in contact with the projecting portions (32) of a subsequent front carrier (14), to force its driver to be disconnected from the drive element, for the purpose of being able to accumulate a number of drive carriages in the girder system.

30 12. An overhead conveyor as claimed in any one of claims 7-11, wherein a guide rail (38; 50) is arranged to cooperate with a peripheral part (36) of said projecting portions, while a pressing roller (22) or a depressing means is adapted to cooperate with an inner part (32) of
35 said projecting portions.

13. An overhead conveyor as claimed in any one of claims 3-12, wherein the drive element (5, 6) is provided with a number of through holes (23), and at least one driver consists of a movable pin (19) adapted to be 5 engaged with and disengaged from the holes (23) in the belt (5).

14. An overhead conveyor as claimed in claim 13, wherein the pin (19) is essentially circular in cross-10 section, while the holes (23) in the drive element have a shape which is elongate in the longitudinal direction of the belt to facilitate connection of the pin (19) to the hole (23).

15 15. An overhead conveyor as claimed in any one of claims 3-14, wherein the drive element (5, 6) has an essentially flat surface, and at least one driver (31) is provided with an essentially flat upper surface, adapted to be brought into frictional engagement with 20 the essentially flat surface of the drive element.

16. An overhead conveyor as claimed in any one claims 3-15, wherein each carrier (14, 15) is provided with a driver pin (19) and a friction driver (31; 40). 25

17. An overhead conveyor as claimed in any one of claims 3-16, wherein each carrier (14, 15) is provided with a driver (39) which comprises a driver pin (19) as well as a friction driver (40). 30

18. An overhead conveyor as claimed in any one of claims 3-17, wherein each carrier (14, 15) of the drive carriages (13) is provided with rotatably arranged wheels (16) adapted to roll on flange portions, acting as rails 35 (12), in the lower part of the space in the girder (9) that holds the carriers.

19. An overhead conveyor as claimed in any one of the preceding claims, wherein the drive element (5, 6) is passed over drive and terminal rollers (4) arranged close to the ends of the straight girder portions (9), and of 5 which at least one drive roller (4) is driven by a motor (1) via a belt transmission (2, 3).

20. An overhead conveyor as claimed in claim 19, wherein the drive motor (1) is connectible to a drive 10 roller, arranged at a distance therefrom, for a second drive belt (5, 6) by means of a flexible shaft (30).

21. An overhead conveyor as claimed in any one of the preceding claims, wherein the drive element is a 15 belt or a positive drive belt.

22. An overhead conveyor as claimed in any one of preceding claims, wherein the drive element is a chain.